

TWO NEW SPECIES OF *MACROPHYA* DAHLBOM (HYMENOPTERA, TENTHREDINIDAE) FROM SHENNONGJIA, CHINA

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Abstract *Macrophya jiangi* Wei et Zhao, sp. nov. and *M. shennongjiana* Wei et Zhao, sp. nov. from Shennongjia, China are described and illustrated. They belong to *Macrophya sanguinolenta* species group.

Key words Hymenoptera, Tenthredinidae, *Macrophya*, new species, China.

Shennongjia National Nature Reserve lies in the west part of Hubei Province. In the framework of the Chinese biodiversity, it stands on the middle point of the East Branch (a migration route from the South-western core area towards North-eastern area of Asia along Mt. Wuling, Mt. Daba, Mt. Taihang, Mt. Yan and Mt. Changbai) with conjunction of Mt. Qinling-Mt. Funiu, a ligament of the West Branch (from the South-western core area towards the Mt. Liupan and Mt. Helan along the east margin of Qinghai-Tibet Plateau) and East Branch (Wei et Nie, 1997). The biodiversity of the region is very high. Thousands specimens of Symphyta were collected in a three years survey of the sawfly fauna in Shennongjia, which represented by more than 400 sawfly species.

This paper reports two new sawfly species from the region collected in 1980's. Type specimens of the new species are deposited in the Insect Collection of Central South University of Forestry and Technology, Hunan, China (CSCS).

Macrophya jiangi Wei et Zhao, sp. nov. (Figs 1–3)

Female. Body length 9 mm. Black; basal half of mandible, broad posterior margin of first abdominal tergite, a large and elliptical macula on outer side of hind coxa shining yellow; labrum and apical half of clypeus dark reddish brown; narrow posterior margin of pronotum, tegula largely, anterior side of fore and middle femora, fore and middle tibiae and tarsi pale brown; apical margin of hind coxa and hind trochanter entirely shining yellow brown; hind femur red with a long black stripe on posterior side; hind tibia and hind tarsus dark reddish brown. Body hairs pale brown. Wings hyaline, apical half slightly infuscate, vein C and R1 pale brown, stigma and other veins dark brown (Fig. 1).

Labrum sparsely and very shallowly punctured,

shining; apical half of clypeus evenly punctured; anterior half of pronotum, most parts of metanotum, a small and roundish patch on ventral-anterior part of mesepisternum impunctate, strongly shining, head and thorax otherwise densely and coarsely punctured, matt. First abdominal tergite strongly shining with a few punctures laterally, other tergites evenly and shallowly punctured and microsculptured, less shining.

Labrum elevated, transversally quadrate, apical margin slightly incised; clypeus slightly broader than shortest distance between eye, depth of anterior incision about $3/7$ length of clypeus, lateral lobe narrow and roundish at apex (Fig. 2); malar space slightly broader than radius of ocellus; middle fovea shallow and broad, obscure; lateral fovea sulcated, short; frons flat, ocellus slightly beyond top of eyes; interocellar and postocellar furrows indistinct; postocellar area flat, $2.2 \times$ broader than long, with a shallow middle furrow; lateral furrows shallow and slightly divergent backward; occipital carina distinct and complete; head behind eyes very short and strongly narrowed in dorsal view. Antenna filiform, $1.1 \times$ longer than abdomen, distinctly longer than head and thorax together, pedicellum broader than long, third antennomere distinctly shorter than 4th and 5th antennomeres together (about 20:29), flagellum not dilated or compressed toward apex. Mesoscutellum weakly elevated, upper side flat with a very faint middle carina; posttergite with a middle carina; middle part of mesepisternum elevated, flat upper margin of mesepimeron about as broad as ocellus; posterior corner of metepimeron roundish, not extended backward, without appendage. Hind tibia distinctly enlarged and compressed toward apex, inner tibial spur $0.6 \times$ as long as metabasitarsus; metabasitarsus slightly incrassated, $1.1 \times$ length of following 4 tarsomeres

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Figs 1 – 3. *Macrophya jiangi* Wei et Zhao, sp. nov. 1. Adult female in dorsal view. 2. Clypeus and labrum. 3. The 8th – 10th serrulae of lancet.

together; inner tooth of claw broader and shorter than outer tooth. Vein cu-a in forewing joining cell 1M at basal 1/3, 2r joining cell 2Rs at about apical 1/3, cell 2Rs longer than 1Rs, middle petiole of anal cell 1.2 × length of 1r-m; petiole of hind anal cell about 2/5 length of vein cu-a. Ovipositor slightly shorter than metabasitarsus as 35 : 41, sheath longer than basal plate. Lancet with about 26 serrulae, serrula flat with 1 basal and 23 – 25 distal small teeth, 8th – 10th serrulae as in Fig. 3.

Male. Unknown.

Etymology. The species is named after the surname of Dr. JIANG Shi-Hong, to thank his help in studying the sawfly fauna of Hubei Province.

Holotype ♀, Songbai, Shennongjia (31.7° N, 110.6° E), Hubei, 30 May 1985, MAO Xiao-Yuan.

Remarks. This new species belongs to *Macrophya sanguinolenta* group. It can be easily separated from other species of the species group by the clypeus black at basal half and reddish at apical half, the female serrulae very flat with 1 basal and 23 – 25 distal fine teeth. See the key below for identification of the

species from several other related species in *Macrophya sanguinolenta* group.

***Macrophya shennongjiana* Wei et Zhao, sp. nov.**
(Figs 4 – 6)

Female. Body length 9 mm. Black; labrum, clypeus, basal half of mandible, palpi largely, lateral sides and posterior margin of postocellar area, a middle stripe on posterior orbit, lateral and posterior margin of pronotum, a pair of triangular stripes on inner sides of mesoscutum, outer side of tegula, mesoscutellum largely, posttergite, broad and entire posterior margin of 1st abdominal tergite, middle third of posterior margins of tergites 3 – 5 and 8, posterior margins of tergites 2 – 7 ventrally and tergite 10 entirely, apical 3/4 of fore and middle coxae, apical margin of hind coxa, a large oval macula on outer side of hind coxa, each trochanter, a small dot on apical part of tibiae, yellow white; scape and pedicellum, fore and middle femora largely, hind femur and tibia except their apices, 5th tarsomere of hind leg reddish brown; apex of fore femur, fore and middle tibiae and



Figs 4–6. *Macrophya shennongjiana* Wei et Zhao, sp. nov. 4. Adult female in dorsal view. 5. Clypeus and labrum. 6. The 7th–9th serrulae of lancet.

tarsi yellow brown; a spot on dorsal side of hind femur, apex of hind tibia and basal 4 tarsomeres black. Body hairs silver. Wings hyaline, not infusate, basal 9/10 of vein C, posterior 3/5 of stigma and vein R1 pale brown, apex of vein C, anterior 2/5 of stigma and other veins black brown (Fig. 4).

Head shining, frons sparsely and shallowly punctured; mesoscutum densely and shallowly punctured with narrow shining interspaces, mesoscutellum and posttergite with some very shallow and large punctures, less shining; mesepisternum and metepimeron coarsely and densely punctured, upper part of mesepimeron densely microsculptured, lower 3/5 of mesepimeron rugose, feebly shining; metepisternum finely and densely punctured; 1st abdominal tergite strongly shining with some fine punctures laterally, other tergites finely and shallowly

punctured, indistinctly coriaceous.

Labrum quadrate, apical margin truncate; clypeus broad, slightly narrower than shortest distance between eyes, depth of anterior incision about 1/3 length of clypeus, lateral lobes short and acute (Fig. 5); inner margins of eyes weakly convergent downwards; malar space $0.7 \times$ diameter of ocellus; middle and lateral foveae furrow like, deep; frons weakly elevated, slightly beyond top of eyes; interocellar furrow shallow, postocellar furrow obscure; postocellar flat, $2 \times$ broader than long, lateral furrows narrow and shallow, distinctly divergent backwards; occipital carina fine and quite low; head behind eyes short and strongly narrowed in dorsal view. Antenna stout, filiform, much longer than head and thorax together, slightly shorter than abdomen, pedicellum longer than broad, third antennomere $0.8 \times$ as long as following 2

antennomeres together, middle and subapical antennomeres weakly dilated, tapering toward apex. Mesoscutellum strongly elevated with a peak and a distinct transversal carina, without longitudinal carina, posttergite with a short but distinct middle carina; middle part of mesepisternum elevated, dorsal margin of mesepimeron broad, about $1.4 \times$ diameter of ocellus; posterior corner of metepimeron distinct, without appendage. Hind tibia not strongly enlarged toward apex, inner apical spur $0.7 \times$ length of metabasitarsus, metabasitarsus $1.1 \times$ as long as following 4 tarsomeres together; inner tooth of claw slightly shorter than outer tooth. Vein cu-a in forewing joining cell 1M at basal $1/3$, 2r joining cell 2Rs at apical $1/3$, cell 2Rs longer than 1Rs, middle petiole of anal cell very short, about $1/2$ length of 1r-m; petiole of hind anal cell about $1/3$ length of cu-a. Ovipositor longer than metabasitarsus as $41:38$, sheath $1.2 \times$ longer than basal plate. Female lancet with 27 flat serrulae, middle serrulae each with 1 basal and 15-16 distal fine teeth, $7^{\text{th}} - 9^{\text{th}}$ serrulae as in Fig. 6.

Male. Unknown.

Etymology. This species is named after the type locality.

Holotype ♀, Guanfeng, Shennongjia (31.7°N , 110.6°E), Hubei Province, 6 Aug. 1985, MAO Xiao-Yuan.

Remarks. This new species is allied to *M. jiangi* sp. nov., *M. erythrocephalica* Wei et Nie, 2003 and *M. leucotarsalina* Wei et Chen, 2002. The 4 species can be separated by following key.

Key to some *Macrophya* species related to *M. jiangi* and *M. shennongjiana*.

1. Female 2
Male 5
2. Head and pronotum largely, upper half of mesepisternum, mesoscutum largely red with a few black or yellow maculae 3
Head and thorax black with a few yellow or white maculae 4
3. Body narrow and elongated; mesoscutellum flat, strongly shining, yellow; 1st abdominal tergite and antennal flagellum entirely black; lateral lobes of clypeus very long and acute; head sparsely and shallowly punctured, shining; tarsomeres 2 – 4 of hind leg yellow

神农架钩瓣叶蜂属二新种 (膜翅目, 叶蜂科)

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摘 要 记述采自湖北神农架的钩瓣叶蜂属 2 新种: 江氏钩瓣叶蜂 *Macrophya jiangi* Wei et Zhao, sp. nov. 和神农钩瓣叶蜂 *Macrophya shennongjiana* Wei et Zhao, sp. nov.。2 个新种均属于

关键词 膜翅目, 叶蜂科, 钩瓣叶蜂属, 新种, 中国。

中图分类号 Q969.542.0

white *M. leucotarsalina* Wei et Chen, 2002
Body robust; mesoscutellum strongly elevated, coarsely punctured, red; 1st abdominal tergite largely yellow, basal 3 antennomeres reddish brown; lateral lobes of clypeus short, not acute; head and thorax coarsely punctured, matt; hind tarsus entirely red

..... *M. erythrocephalica* Wei et Nie, 2003

4. Clypeus, mesoscutellum and posttergite, triangular stripes on inner sides of mesoscutum, posterior margins of each abdominal tergite yellow white; basal 2 antennomeres reddish brown; hind tarsomeres 2 – 4 black; pedicellum longer than broad; mesoscutellum strongly shining, head sparsely punctured

..... *M. shennongjiana* Wei et Zhao, sp. nov.

Basal half of clypeus, mesoscutellum and posttergite, mesoscutum entirely, abdominal tergites and basal 2 antennomeres black, apical half of clypeus and hind tarsus entirely reddish brown; pedicellum broader than long; mesoscutellum and head dorsally coarsely punctured, matt *M. jiangi* Wei et Zhao, sp. nov.

5. Body slender; 1st abdominal tergite and hind tibia black, hind tarsomeres 2 – 5 white; lateral lobes of clypeus very long and acute; head dorsally sparsely and shallowly punctured, shining

..... *M. leucotarsalina* Wei et Chen, 2002

Body robust; 1st abdominal tergite largely and middle part of hind tibia white; hind tarsus black; lateral lobes short, not acute; head dorsally densely and coarsely punctured, matt

..... *M. erythrocephalica* Wei et Nie, 2003

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Macrophya sanguinolenta 种团。编制了新种及其 2 个近缘种的分子检索表。模式标本保存于中南林业科技大学昆虫模式标本室。

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